



The manufacturer
may use the mark:



Revision 2.3 Jun 3, 2024
Surveillance Audit Due
June 1, 2025



Certificate / Certificat Zertifikat / 合格証

EC 1805099 002

exida hereby confirms that the:

**Pressure switch
series M, B, A, D, PC and PX**

Temperature switch series T

**WIKA Alexander Wiegand SE & Co. KG
Klingenberg, Germany**

Have been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-2

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A Element

SIL 2 @ HFT=0; SIL 3 @ HFT = 1; Route 2_H

**PFH/PFD_{avg} and Architecture Constraints
must be verified for each application**

Safety Function:

The micro switch will de-energize when the input pressure, or temperature, rises above, or falls below, the set-point within the stated safety accuracy.

Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.



Evaluating Assessor

Certifying Assessor

Systematic Capability: SC 3 (SIL 3 Capable)**Random Capability: Type A Element****SIL 2 @ HFT=0; SIL 3 @ HFT = 1; Route 2_H****PFH/PFD_{avg} and Architecture Constraints
must be verified for each application**

Pressure switch series
M, B, A, D, PC and PX

Temperature switch
series T

Systematic Capability:

The products have met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with these products must not be used at a SIL level higher than stated.

Random Capability:

The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets *exida* criteria for Route 2_H.

IEC 61508 Failure Rates in FIT*

Device series	λ_{Safe}	λ_{DD}	λ_{DU}
Pressure switch M*	133	0	86
Pressure switch B*	138	0	63
Pressure switch BAX**	134	0	98
Pressure switch PC*	133	0	78
Pressure switch PX*	125	0	82
Absolute pressure switch A*	128	0	203
Differential pressure switch DA*/DW*	158	0	242
Differential pressure switch DW0*	154	0	72
Differential pressure switch DE* / DC*	156	0	176
Temperature switch T*G*	292	0	98
Temperature switch TC*	127	0	96
Temperature switch TX*	127	0	100

* FIT = 1 failure / 10⁹ hours

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Assessment Report: EC 18/05-085-C R006 V2 R3 (or later)

Safety Manuals:

Safety manual Relative pressure switches NI-725WE Rev1

Safety manual Temperature switches NI-726WE Rev1

Safety manual Differential and Absolute pressure switches NI-727WE Rev1



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